Detecting Bias in Research Papers

2007 LSSS, RACSS & LRL Joint Seminar
Santa Fe, New Mexico
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Goal:

- Identify the implicit theories underlying policy and program proposals
- Show how those theories lead to specific policy options
- Demonstrate a tool for uncovering and examining the implied theories supporting these options
Research Context

- Conducting secondary research
- Analyzing papers, reports, and studies proposing new policies
Approach

☐ Describe “systems thinking”

☐ Apply this conceptual tool to the analysis supporting a major policy proposal
What is bias?

- An inclination, leaning, tendency or bent
- A prepondering disposition or propensity
- A predisposition towards, predilection, or prejudice
Thomas Jefferson on theoretical bias:

- “The moment a person forms a theory his imagination sees in every object only the tracts that favor that theory.”
Einstein put it this way:

“Our theories determine what we measure.”
Paul Simon on bias

“All lies and jest, still a man hears what he wants to hear and disregards the rest.” (“The Boxer”)
Theoretical Bias

- Implied, unstated

- Revealed in the dots one chooses to study (i.e., the variables)

- And how one connects those dots (cause and effect relationships)
Mental Models

- Internal images about how the world works and why
- Some are tacit and hard to see
- Shape how we think and act
- Determine policy options
Fifth Discipline, Peter Senge

- “Systems Thinking” and “Working with Mental Models” are two of Senge’s five disciplines

- Five disciplines help organizations overcome learning disabilities
Systems Thinking

- Helps identify and assess mental models and hidden bias

- Identifies structures and patterns underlying complex situations
Systems Thinking

- English language favor linear thinking
  - Subject \rightarrow Verb \rightarrow Object

- Learning styles and brain hemispheric preferences
  - Left brain tends to process information step-by-step
  - Right brain tends to see the whole picture at once (Ricki Linksman, *How to Learn Anything Quickly* (1996))
Example: Cold War Arms Race

USSR Arms → US Threatened → US Needs Arms

US Arms → USSR Threatened → USSR Needs Arms
Systems Thinking

- Systems thinking sees circles of causes and effects.
- It connects separate chains of events.

Diagram:
- USSR Needs Arms
- USSR Builds Arms
- Threat to USSR
- Arms Spiral
- Threat To US
- US Needs Arms
- US Arms
Using Systems Thinking to Identify Mental Model: HOMEConnecticut

- Ad Hoc Statewide Group

- Sponsored by Partnership for Strong Communities (http://www.ctpartnershiphousing.com/)

- Planners, economists, home builders, realtors, advocates, and other stakeholders
2007 HOMEConnecticut Legislative Proposal

☐ Diagnosed state’s affordable housing problem (i.e., cause and effect)

☐ Proposed a program based on that diagnosis (i.e., intervention)
Root Cause: New housing drives up school costs and property taxes...
Reaction: Towns increase lot sizes, and fewer homes are built

- Increased lot sizes
- Less need for new teachers and classrooms
- Stable school budgets
- Increased lot sizes
But the towns’ solution creates problems for the state

- Large Lot Zoning
- Increased Housing Prices
- Young Workers & Businesses Leave State
- Economic Decline
HOMEConnecticut removes need for fiscal zoning
HOMEConnecticut Strategy

- Zoning incentive payments
- Building incentive payments
- Project-based rent subsidies
- School cost reimbursements
- Infrastructure improvement funds
Detecting Bias—key questions

☐ What is HOMEConnecticut’s perspective?

☐ Does it jump from observation to generalization? (i.e., “leaps of abstractions”)

☐ Does it leave anything out? (i.e., “exposing the left-hand column”)
What’s the perspective?

- The HOMEConnecticut campaign was “launched in 2005 to preserve the quality of life and strong, competitive economy that has distinguished Connecticut, but which is now threatened by a dramatic lack of housing affordable to workers, families, and young professionals.”
Watch out for Leaps of Abstraction

- Avoid processing information quickly

- Identify and reflect on cause and effect statements
  
  Do legislative environments allow reflection?

- “Leaps of abstraction impede learning because they become axiomatic” (Senge).
Leap of Abstraction?

- Connection between (1) increasing housing costs and (2) 25- to 34-year-old cohort declining by 50,000 between 2000 and 2005

- Large minimum lot sizes drive up housing costs

- Towns set large minimum lot sizes to control education spending
Exposing the left-hand column

- Forces your “imagination” to see those “tracts” that don’t support your theory

- Surface hidden assumptions and consider alternative theories
Hidden Assumption: Purpose of Setting Lot Sizes

- Statement: “Reacting to fiscal and other concerns, most communities have restricted most types of housing development with zoning that limits the number of housing units per acre.”

- Assumption: Zoning commissions set lot sized to rein in education spending and discourage poorly designed projects.
Hidden Assumption: Housing Prices and Workers Leaving State

- Statement: “Over the last five years, Connecticut housing prices have increased 63.6%, while wages have risen 18.5%.”

- Statement: “Since 2000, Connecticut has lost a higher percentage of 25-34-year-old population than any state in the nation.”

- Assumption: Housing prices are driving young workers out of the state.
Hidden Assumption: Out migration stunting economic growth

- Statement: “The shortage of younger workers hurts our business’ ability to hire employees right now, but this age bracket also represents our future economic growth.”

- Assumptions:
  - Young workers are “leaving” the state
  - They’re leaving because they can’t afford housing here
PA 07-4, June Special Session

- **Zoning adoption grants**
  - $2,000 for each unit that can be built in a locally adopted, state-approve zone

- **Building permit grants**
  - $2,000 grants for each multifamily, duplex, or townhouse unit
  - $5,000 grants for each single-family detached unit
Mental Models and Hidden Bias

- Robert S. McNamara’s 8th Lesson: “Be Prepared to Reexamine Your Reasoning”
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